(IJID) International Journal on Informatics for Development
Vol. 6, No. 1, 2017

DEVELOPMENT OF TASK IMPLEMENTATION EVALUATION SYSTEM ONLINE CLASSROOM GUARDIANS WITH EXTREME PROGRAMMING METHODS AT THE NOBLE FOUNDATION CONSORTIUM

Abdul Wahid

Department of Informatics
Faculty of Science and Technology
State Islamic University Sunan Kalijaga
Yogyakarta, Indonesia
akheed@gmail.com

Agus Mulyanto

Department of Informatics
Faculty of Science and Technology
State Islamic University Sunan Kalijaga
Yogyakarta, Indonesia
informatika.suka@gmail.com

***Abstract*-Evaluating the performance of employees in an organization is a necessity if the organization seeks improvement of their service quality. Konsorsium Yayasan Mulia working in the field of education is very concerned with evaluating their employee performance. One of the evaluations which have been routinely carried out is evaluation of homeroom teacher performance. This evaluation is done as a form of Konsorsium Yayasan Mulia attention on the student character building. The evaluation has been made manually spend a lot of time and effort, it is necessary for a system that can be the solution of the problem. The system will be built is the first system, that means it requires development method that flexible to changes.**

System development method used in this research is eXtreme Programming. This method is part of Agile Programming that emphasizes intense communication with customers to determine their needs. The steps of this method are planning, design, coding and testing.

The homeroom task evaluation system is a bridge between the homeroom teacher, the principal and Konsorsium Yayasan Mulia. General overview of the system, the system has three user level, admin, principal and homeroom teacher. Admin can post an evaluation sheet and manage principal. Principal can manage homeroom teacher and homeroom theacher can report their task performance.

The result of this research is a system that provides convenience to Konsorsium Yayasan Mulia to evaluate the task performance of homeroom teacher.

Keywords : eXtreme Programming, Homeroom Teacher, Information Systems, Konsorsium Yayasan Mulia, Performance Evaluation.

I. INTRODUCTION

Consortium Noble Foundation manages approximately 200 permanent employees and 200 foundations temporary employees spread across 10 units consortium. During this time the performance evaluation is done by giving a performance sheet to each homeroom to be filled every day for one month. This performance sheet at the end of the month is returned to the consortium to recap and evaluate. The process of recording this performance paper is done manually by moving the points on the performance paper into a *spreadsheet*.

The method manual recording takes a lot of time and energy. For this reason, designing and building a system that is better stated necessary. In this case the researcher proposes a system that can answer these problems, namely an online performance evaluation system. With the homeroom entering his own performance into the system will greatly reduce the recording time, so that evaluation can be done faster.

Based on the description above, the writer will try to develop a system using method *eXtreme Programming* on the evaluation system of the implementation of online homeroom assignments.

II. PURPOSE

The purpose of this research is to build a system *online* that can be used to evaluate the performance of homeroom at the Noble Foundation Consortium.

III. METHODOLOGY

A. Preliminary Study

At this stage researchers conduct an in-depth study of the concepts of the theories that will be used

in the study. This stage is needed to search and assess data or information needed for system development.

B. Collection Data

Collection methods used in this thesis research, namely:

1. Literature Study The

Author collects information by studying references and theories related to the system to be built .

2. Interview The

Author conducts interviews with parties directly related to the development of the system to find out the conditions in the field and gather as much supporting information as possible. Interviews were conducted with the Mulia Foundation Consortium, namely : chairman, admin in the field of staffing and admin in the financial sector.

3. Observation The

Author makes direct observations of the current business processes and standard operating procedures for evaluating the implementation of homeroom duties that have been running.

C. System Development Needs

In system development, the author uses a computer device with the following specifications:

1.CPU Intel® Core (TM) 2 Duo CPU, ~ 2.00GHz.
2.Memory or 2GB RAM.
3.VGA Intel® 965 Express Chipset Family.

While the software *(software)* used is:

1.Operating System Windows 7 Ultimate 32-bit.
2.Notepad ++.
3.XAMPP 1.7.1 (Apache Web Server, PHP).
4.Google Chrome Web Browser.

D. System Development Methodology

Figure 1 is an overview of the eXtreme Programming Stages Artifacts.

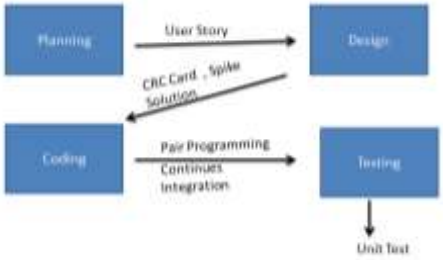

Figure 1. Artefak Tahapan eXtreme Programming

From the results of data collection, the system can then be developed using the method e*Xtreme Programming*. This method is used because it still uses a coherent framework and a process that is faster than other methods so that it is very suitable to be applied in developing small-scale, lightweight and minimal-risk systems because the need for this development still allows unexpected needs. The phases in e*Xtreme Programming* are as follows:

1. *Planning*

Collecting needs in full then analyzed and defined needs that must be met by the system to be built. The author conducts interviews and discussions with the resource person so that the obtained *user story* is which will be used as a reference in the next stage.

2. *Design*

The process of designing or designing a system is the development of the *user story* obtained at the previous stage (*planning*). This stage is done by designing the system workflow in UML in the form of *use case* diagrams and *activity* diagrams, then designing a *database* evaluation system for the implementation of homeroom assignments into the required tables.

3. *Coding*

The design of a system that has been made in accordance with the needs of *stakeholders is* then translated into predetermined programming languages namely, PHP and database management using MySQL.

4. *Testing*

In this phase, the results of the stage *coding are* tested to the *user* whether the system has met the existing needs or not, if the system is not yet in accordance with the needs of the *user,* thendone *refactoring is* to the system according tone eds *user*. In the XP method, it applies a small problem repair as soon as possible to ensure that the system built does not experience errors.

IV. RESULT AND DISCUSSION

Tests are carried out on the system functionality and *usability of the* system, including the system admin, head of the unit, and the homeroom teacher.

A. System Testing Admin

Testing The results of the admin system functionality testing can be seen in the following summary :

Percentage of system functionality testing admin:

Answer YES	(230/230)*100%	100%
Answer NO	(0/230)*100%	0%

Persentase hasil pengujian *usability* sistem admin :

Strongly Agree	(6/50)*100%	12%
Agree	(40/50)*100%	80%
Neutral	(4/50)*100%	8%
Disagree	(0/50)*100%	0%
Strongly Disagree	(0/50)*100%	0%

Based on the test results in terms of the admin system functionality above, it can be seen that most users expressed a good assessment of the evaluation system of the implementation of this homeroom assignment. Test results obtained showed that 100% of users stated that the system's functionality was running well and 0% of respondents said the system's functionality was not working properly.

B. System Testing Unit Head

Percentage of unit head system functional testing results:

Answer YES	(130/130)*100%	100%
Answer NO	(0/130)*100%	0%

Percentage of testing *usability* system unit head :

Strongly Agree	(13/40)*100%	32,5%
Agree	(24/40)*100%	60%
Neutral	(3/40)*100%	7,5%
Disagree	(0/40)*100%	0%
Strongly Disagree	(0/40)*100%	0%

Based on the data above it can be concluded that testing on the functionality and *usability* of the unit head system also gets a good response from respondents. So that the trial functionality and *usability of* the head unit system can be declared pass.

C. . System Testing Homeroom Teacher.

Testing is performed on the system's functionality and the class guardian usability system like the table l below:

Percentage of homeroom system functionality testing results:

Answer YES	(40/40)*100%	100%
Answer NO	(40/40)*100%	0%

Percentage of test results for *usability* the class guardian system:

Strongly Agree	(8/40)*100%	20%
Agree	(27/40)*100%	67,5%
Neutral	(5/40)*100%	12,5%
Disagree	(0/40)*100%	0%
Strongly Disagree	(0/40)*100%	0%

From the percentage of trial results the functionality and *usability of* the homeroom system above can be seen that the results of the trial received a good response so that it can be concluded that Trial the functionality and *usability* of the class guardian system successfully.

CONCLUSION

Based on the research and activities that have been carried out during the development of an evaluation system for the implementation of online homeroom assignments, it can be concluded that this study was successful in designing and building a system with model *eXtreme Programming* in the evaluation system of the implementation of homeroom assignments *online* in the Mulia Foundation Consortium. The evaluation system for the implementation of the classroom guardian's performance *online* can help the Noble Foundation Consortium in managing the reporting, processing and distribution of homeroom performance evaluation data.

ACKNOWLEDGMENT

Thanks to all those who have supported the speakers so that we can complete this paper, and thank you for our parents who have provided moral support and funds.

REFRENCES

[1] Awad, M.A. 2005. *A Comparison Between Agile and Traditional Software Development Methodologies*.

[2] Beck, K. 2000. *Extreme Programming explained: embrace change*. USA: Addison-Wesley Longman Publishing co.

[3] Brady, M., & Loonam, J. 2010. *Exploring the use of entity-relationship diagramming as a technique to support grounded theory inquiry*. Bradford: Emerald Group Publishing.

[4] Awad, M.A. 2005. *A Comparison Between Agile and Traditional Software Development Methodologies*.

[5] Beck, K. 2000. *Extreme Programming explained: embrace change*. USA: Addison-Wesley Longman Publishing co.

[6] Brady, M., & Loonam, J. 2010. *Exploring the use of entity-relationship diagramming as a technique to support grounded theory inquiry*. Bradford: Emerald Group Publishing.

[7] Cockburn,Alistair. 2000. *Agile Software Development*. [Online] Tersedia: http://www.snip.gob.ni/xdc/Agile/AgileSoftwareDevelopment.pdf Akses 4/3/2015 pukul 11:25.

[8] Crawford, B., et al.,. *Creative Thinking in eXtreme Programming*. CJICT. Vol.1, No.2, (Desember 2013).

[9] Hariyanto, Bambang. 2004. *Sistem Manajemen Basis Data*. Bandung: Informatika Bandung.

[10] Hunt, J. 2003. *Guide to the Unified Process Featuring UML, Java and Design Patterns Second Edition*. New York: Springer.

[11] Hunt, J. 2006. *Agile Software Construction*. London: Springer.

[12] Iqbal, N.. M. (2015). *Pengembangan Sistem Informasi Manajemen Order Satoedjari Merch Menggunakan Model eXtreme Programming.* Yogyakarta: UIN Sunan Kalijaga

[13] Nursiyanta, P. (2014). *Rancang Bangun Aplikasi Pendataan Pasien oleh Perawat Komunitas Menggunakan Metode Extreme Programming Berbasis Android.* Yogyakarta: UIN Sunan Kalijaga.